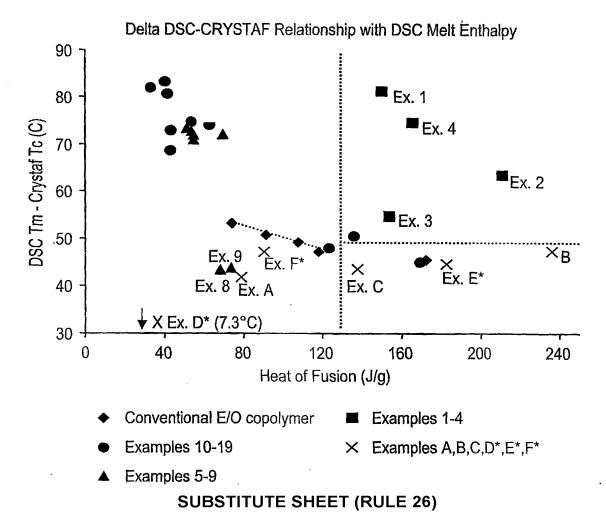
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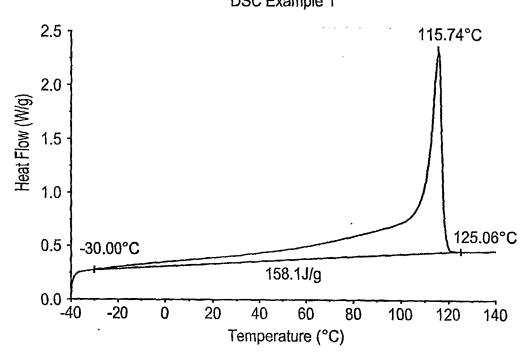
FIG. 1 10 chain chain chain shuttling growth growth 22 - 24 20 chain chain chain growth growth shuttling

FIG. 2



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FIG. 3
DSC Examplé 1

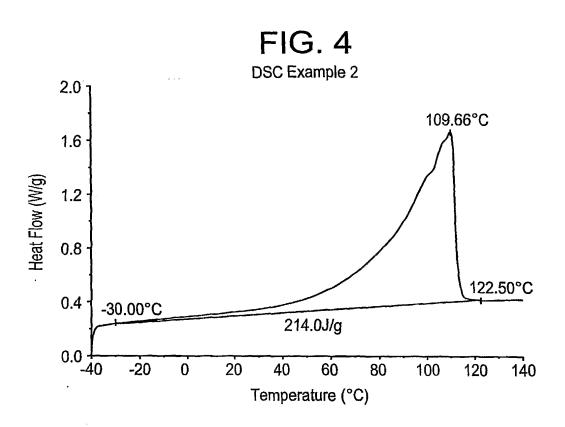


CRYSTAF Report

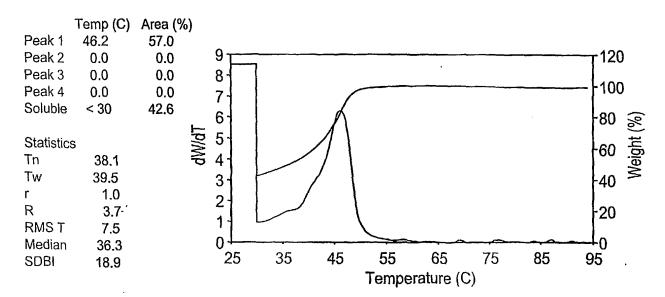
LIMS #: 77391.0 Reference: 102285-A2 Crystaf ID: 38600.0

Peak 1 Peak 2	Temp (C) 34.5 64.0	Area (%) 52.9 16.5	7 _T -				*			 1 20	,
Peak 3	0.0	0.0	6	— <u>-</u>						_ \ 100	
Peak 4	0.0	0.0	- 1	l						 ∤100	l
Soluble	< 30	30.0	5 -	{						1	
			5.1							 80	%
Statistic	S	76/78	≨ 4 	\searrow						100)#
Tn	38.2	7	3 -	\wedge						60	Weight (%)
Tw	41.0		- 1	/ \	\					-40	്≋
r	1.1		2		\					170	
R	7.3		1			_				- 20	
RMS T	12.0		'		_		/			1~	
Median	34.6		0 +			,		<u> </u>		1 0	
SDBI	18.5		25	35	45	55 Temper	65 ature (C	75 ;)	85	95	

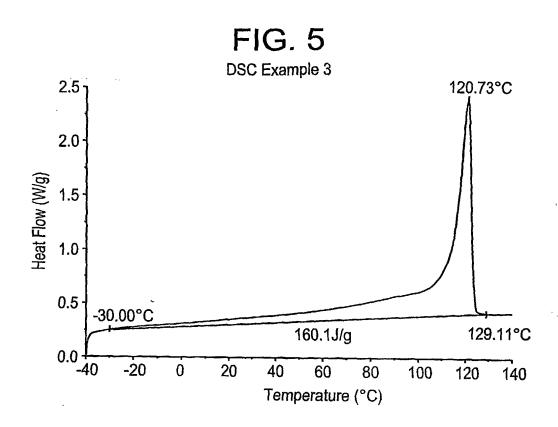




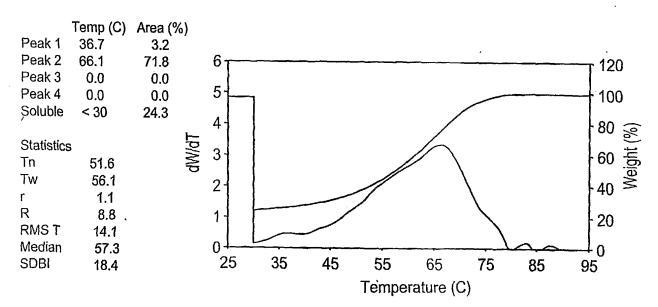
CRYSTAF Report LIMS #: 77392.0 Reference: 102285-A2 Crystaf ID: 38630.0



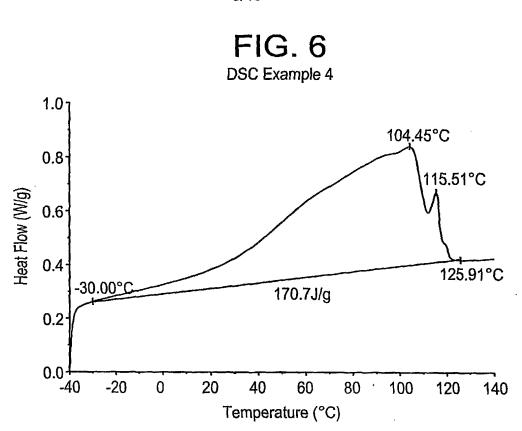




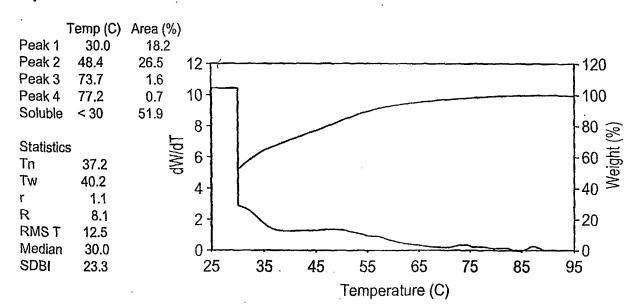
CRYSTAF Report LIMS #: 77393.0 Reference: 102285-E4 Crystaf ID: 38661.0



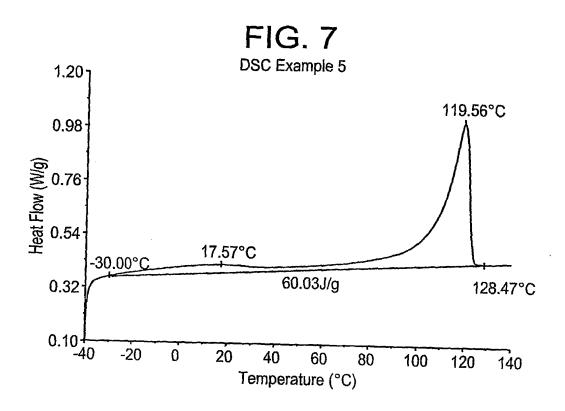
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CRYSTAF Report LIMS #: 77394.0 Reference: 102285-E5 Crystaf ID: 38691.0



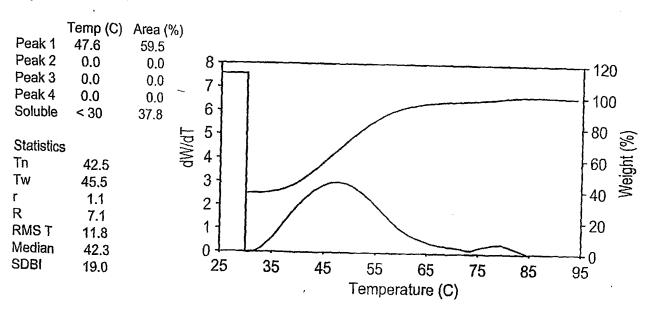
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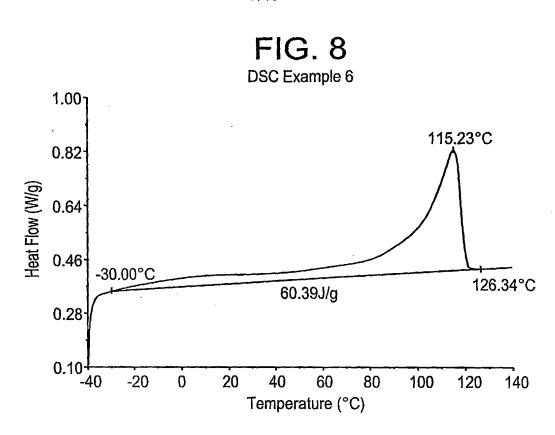
CRYSTAF Report 10205.0

Reference: 200402166-28-8

Crystaf ID: 609-04





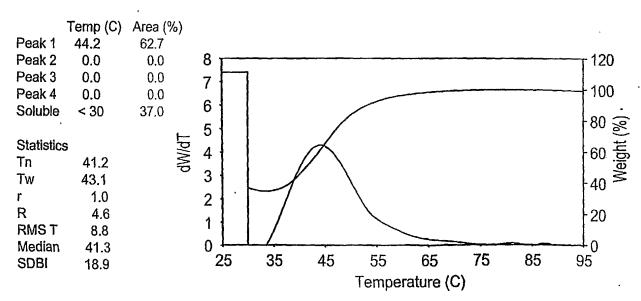


CRYSTAF Report

LIMS #: 70203.0

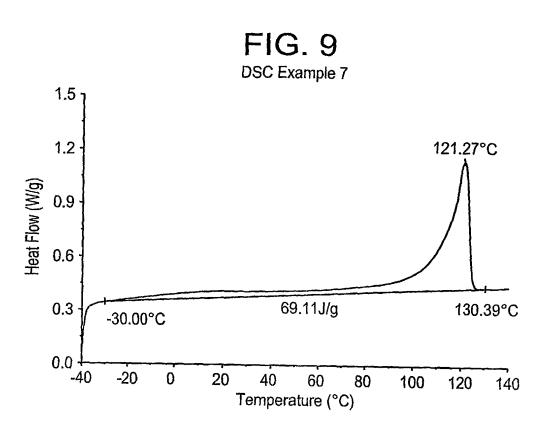
Reference: 200402166-28-6

Crystaf ID: 607-04



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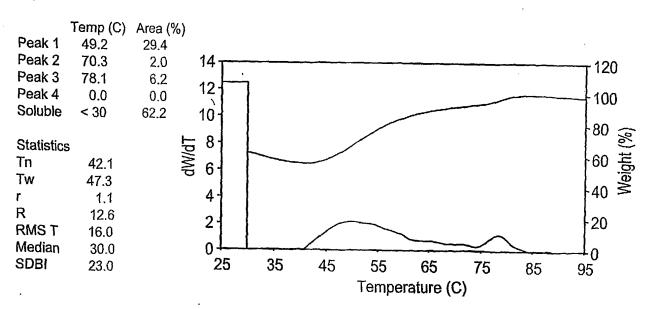
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CRYSTAF Report LIMS #: 70432.0

Reference: 200402166-28-10

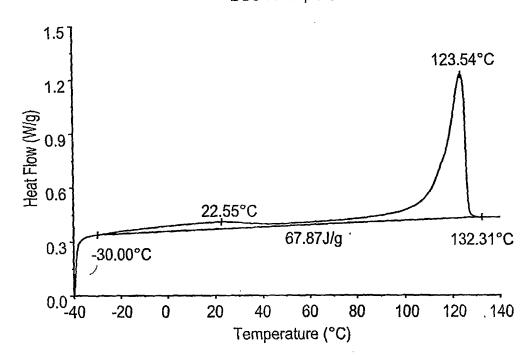
Crystaf ID: 621-04



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FIG. 10 DSC Example 8

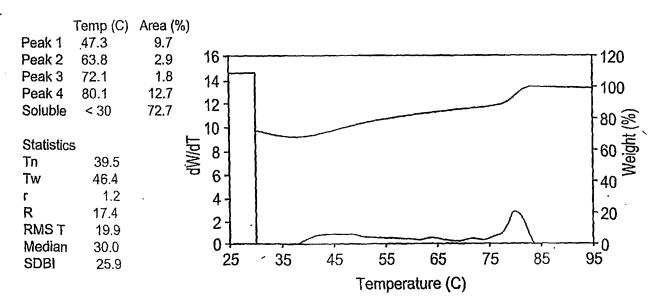


CRYSTAF Report

LIMS #: 70552.0

Reference: 200402166-28-13

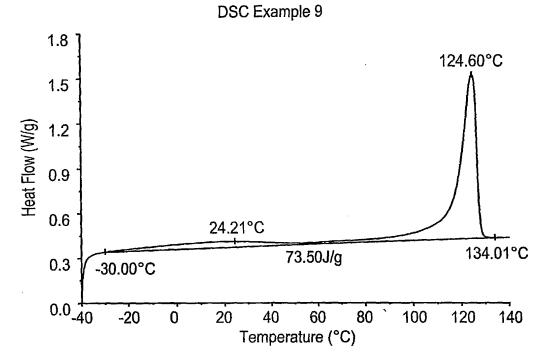
Crystaf ID: 631-04



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FIG. 11

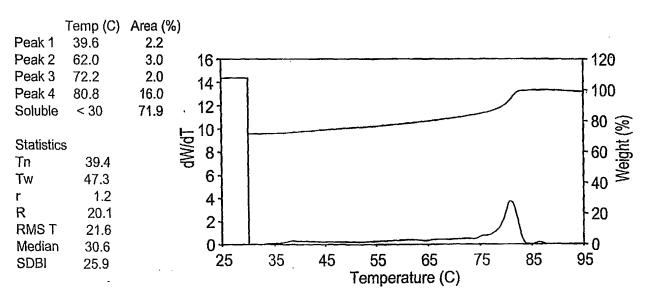


CRYSTAF Report

LIMS #: 70553.0

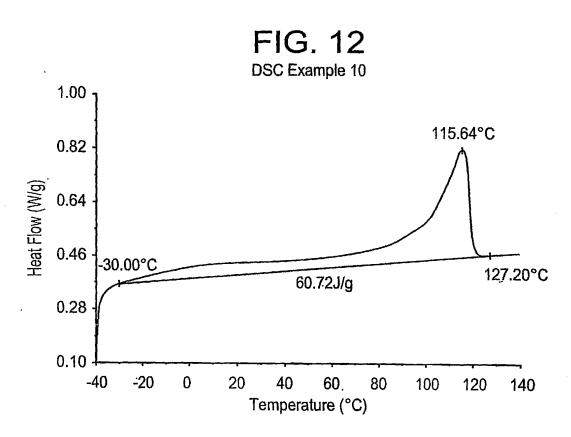
Reference: 200402166-28-14

Crystaf ID: 632-04

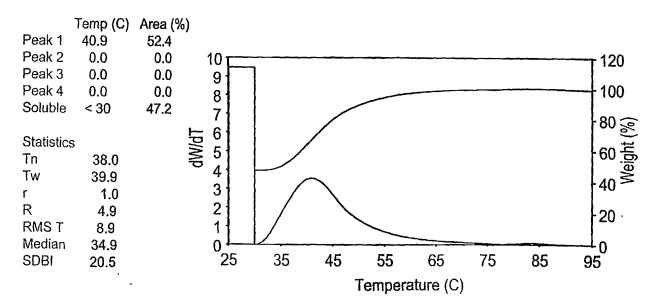


SUBSTITUTE SHEET (RULE 26)



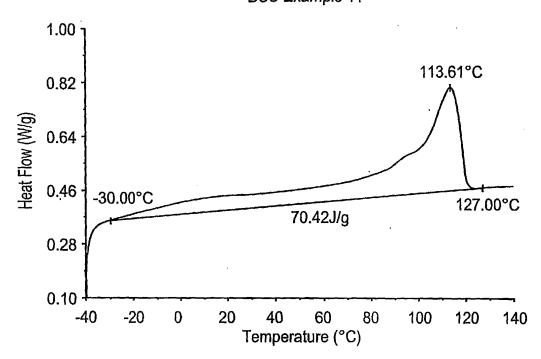


CRYSTAF Report LIMS #: 73541.0 Reference: 04C25R01 Crystaf ID: 697-04

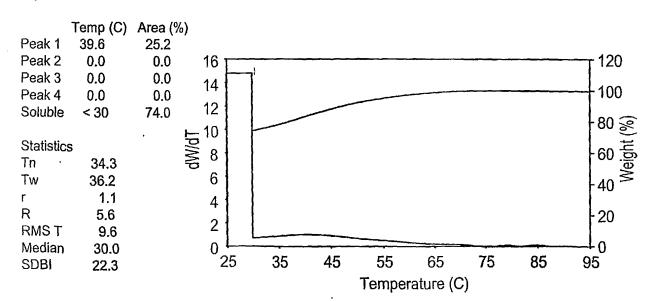


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FIG. 13
DSC Example 11



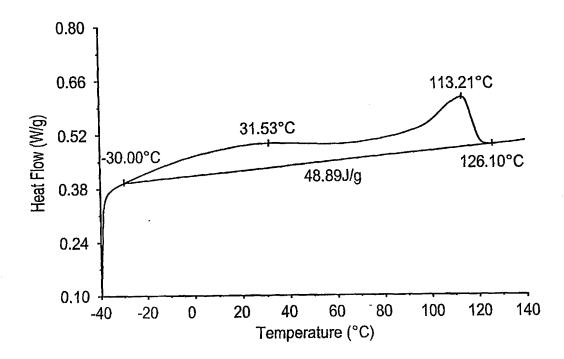
CRYSTAF Report LIMS #: 73542.0 Reference: 04C25R02 Crystaf ID: 698-04



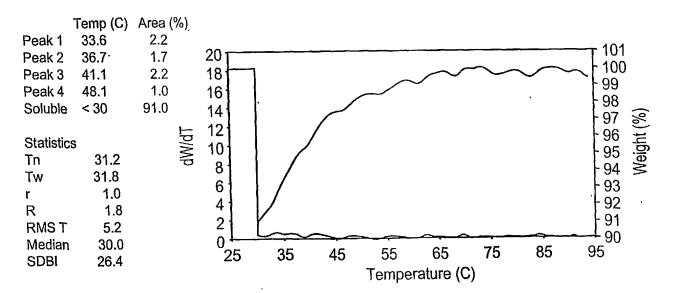
SUBSTITUTE SHEET (RULE 26)

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FIG. 14 DSC Example 12



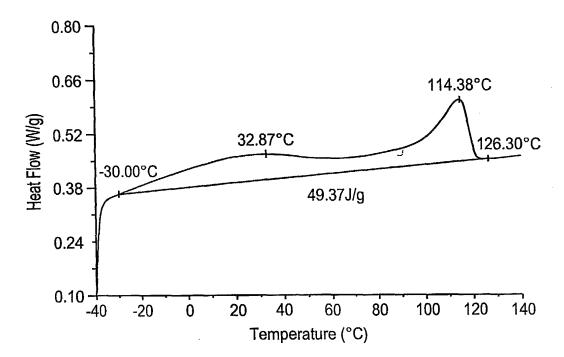
CRYSTAF Report LIMS #: 73543.0 Reference: 04C25R03 Crystaf ID: 699-04



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FIG. 15
DSC Example 13

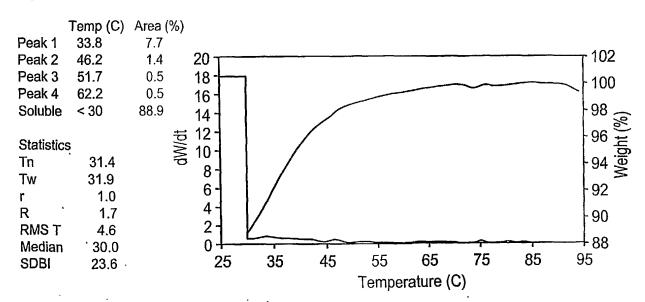


CRYSTAF Report

LIMS #: 73698.0

Reference: 04C25R04 20040216

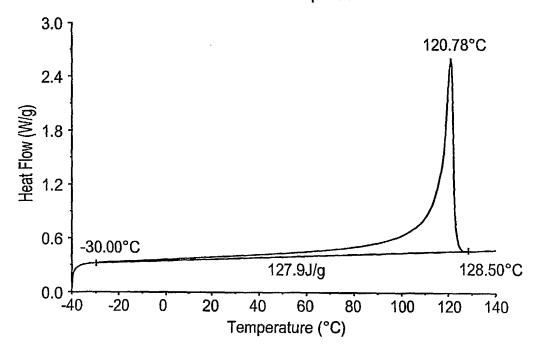
Crystaf ID: 718-04



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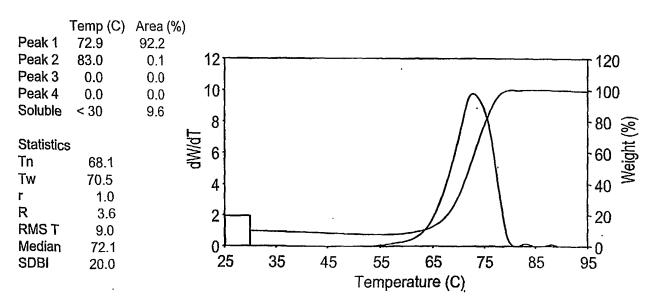




CRYSTAF Report LIMS #: 73699.0

Reference: 04C25R05 20040216

Crystaf ID: 715-04



SUBSTITUTE SHEET (RULE 26)

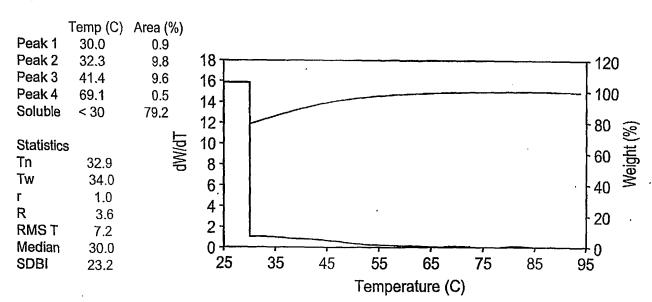
16/48 FIG. 17 **DSC Example 15** 0.80 -114.25°C 0.66 Heat Flow (W/g) 0.52 -30.00°C 126.12°C 36.23J/g 0.38 0.24 0.10 -40 -20 0 20 60 40 100 80 120 140 Temperature (°C)

CRYSTAF Report

LIMS #: 74111.0

Reference: 104C25R06 20040216

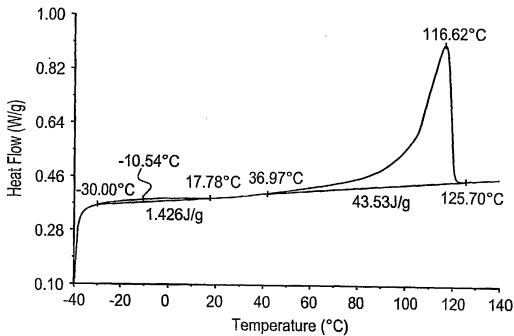
Crystaf ID: 719-04



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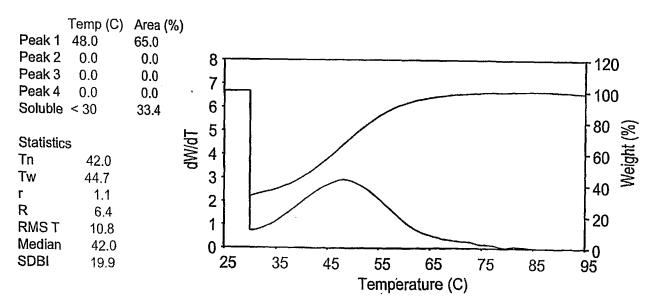




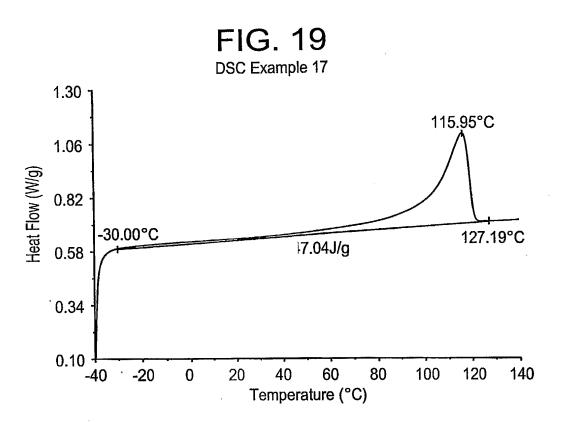
CRYSTAF Report LIMS #: 74112.0

Reference: 200402166-39 04C25

Crystaf ID: 725-04



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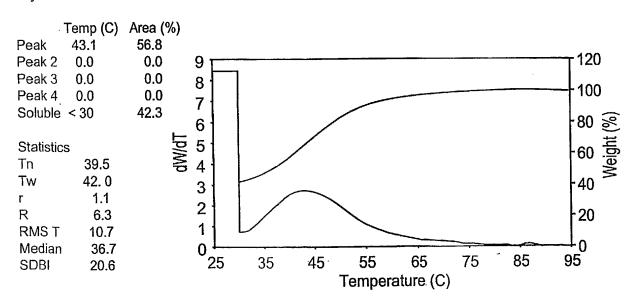


CRYSTAF Report

LIMS #: 74115.0

Reference: 200402166-39 04C25

Crystaf ID: 726-04

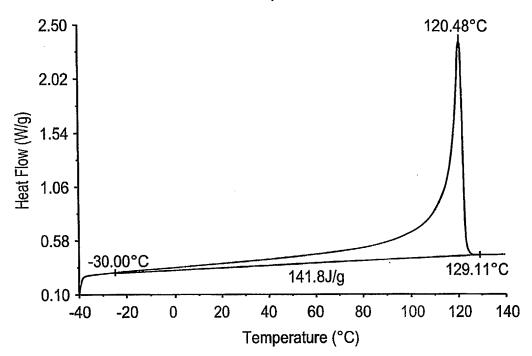


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FIG. 20

DSC Example 18

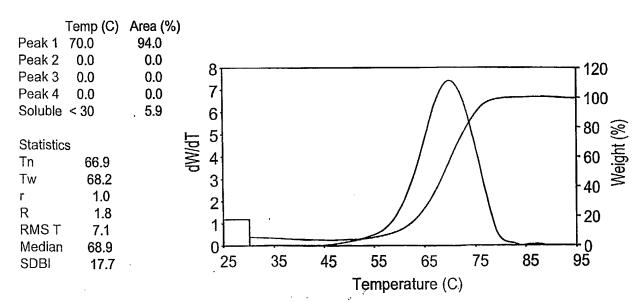


CRYSTAF Report

LIMS #: 74113.0

Reference: 04C25R08 20040216

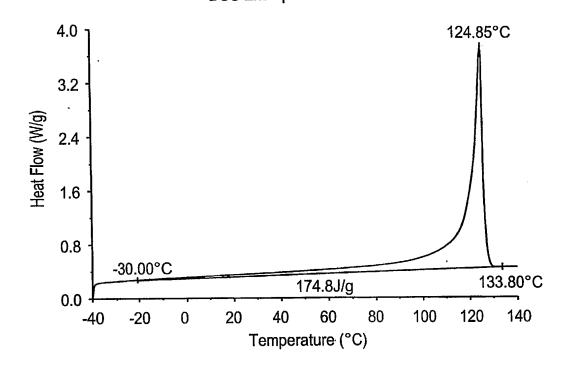
Crystaf ID: 716-04



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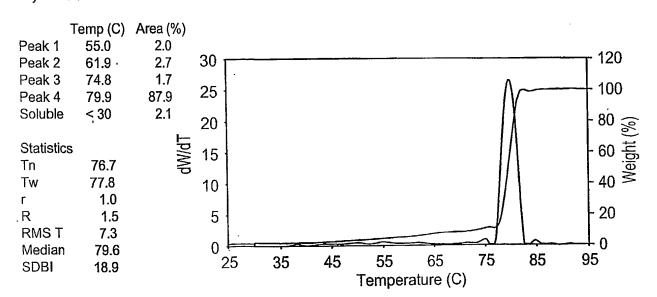
FIG. 21
DSC Example 19



CRYSTAF Report LIMS #: 74114.0

Reference: 04C25R09 20040216

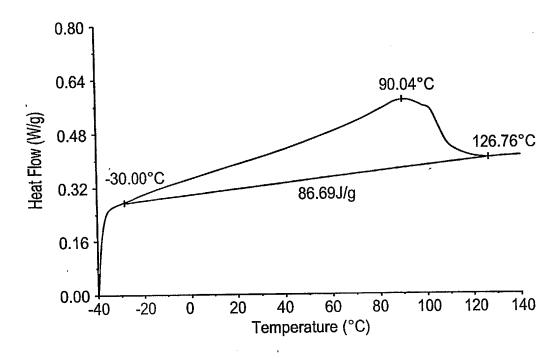
Crystaf ID: 717-04



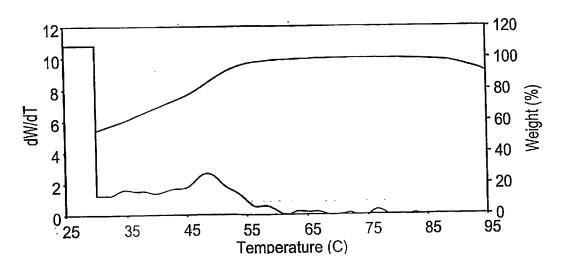
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FIG. 22
DSC Comparative A*

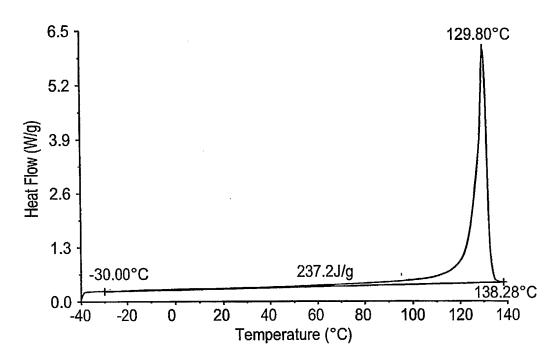


CRYSTAF Report LIMS #: 77388.0	Temp (C) Area (^c	Statistics		
Reference: 102253-A6	Peak 1	´ 30.0 `	2.3	Tn	35.9
Crystaf ID: 38508.0	Peak 2	34.8	7.3	Tw	36.4
,	Peak 3	37.5	4.2	r	1.0
	Peak 4	48.5	29.4	R	1.4
	Soluble	< 30	54.1	RMS T	6.4
				Median	30.0
				SDBI	36.9



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FIG. 23 DSC Comparative B*

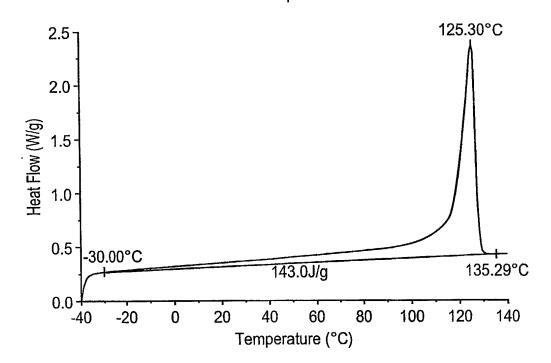


		AF Repo			, (0)		/0/ \		Statistics	_
LIMS #: 77389.0 Reference: 102286-A1				Temp (C) Area (%) Peak 1 77.6 8.7					s 77.5	
Crystaf ID: 38538.0				ak 2	82.4	83.7		Tn Tw	79.4	
				ak 3	0.0	0.0		r	1.0	
			Pe	ak 4	0.0	0.0		R	2.5	
				So	luble	< 30	1.6		RMST	9.0
									Median	81.8
									SDBI	18.5
	25 J									120
Tb/Wb	20								1	100
	15								X	80 8
	13							- 1	Λ	90 %) Weight (%
	10							- 1/	1.	40 ≥
	5									20
	0,1	25	35	45	_55	5	65	75	85	—— 0 95

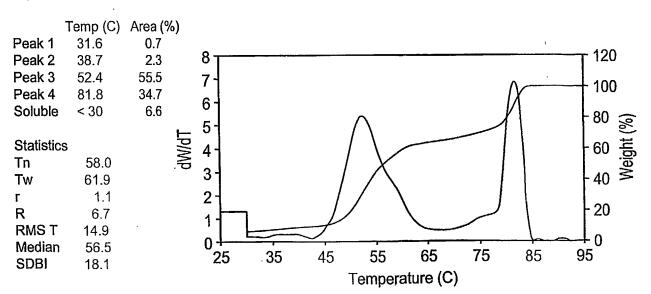
45 55 65 75 Temperature (C) SUBSTITUTE SHEET (RULE 26)

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FIG. 24
DSC Comparative C*

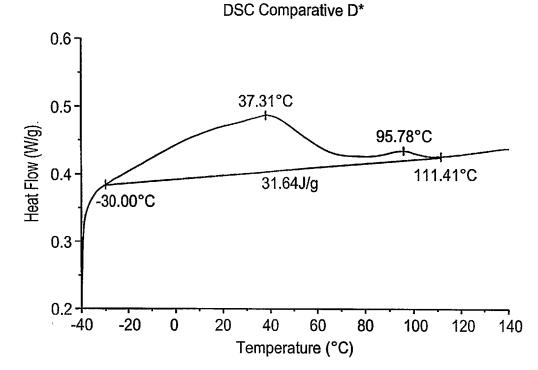


CRYSTAF Report LIMS #: 77390.0 Reference: 102285-E1 Crystaf ID: 38569.0



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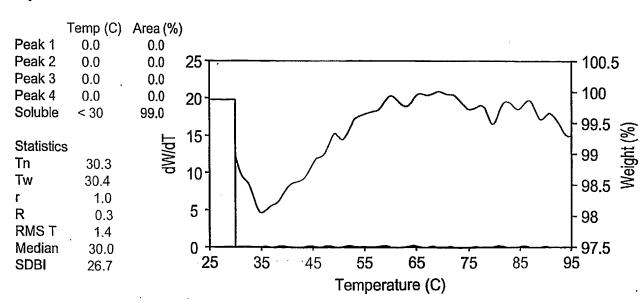
FIG. 25



CRYSTAF Report LIMS #: 69534.0

Reference: 200402166-28-2

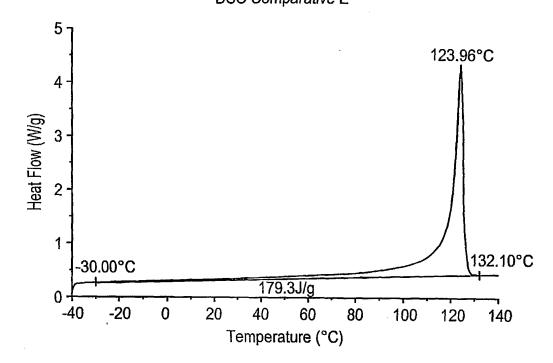
Crystaf ID: 578-04



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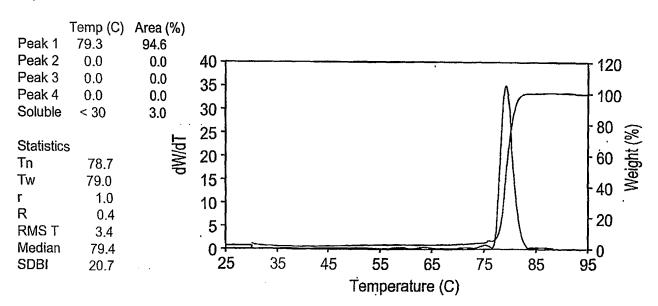
FIG. 26
DSC Comparative E*



CRYSTAF Report LIMS #: 69535.0

Reference: 200402166-28-3

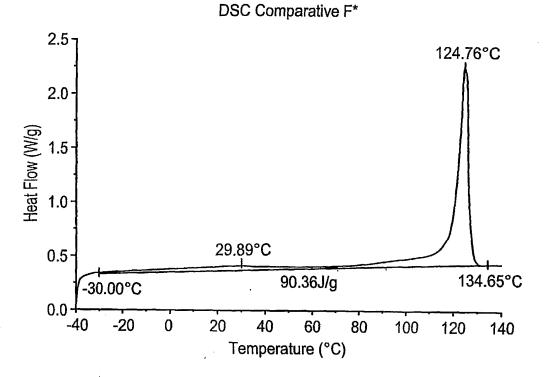
Crystaf ID: 577-04



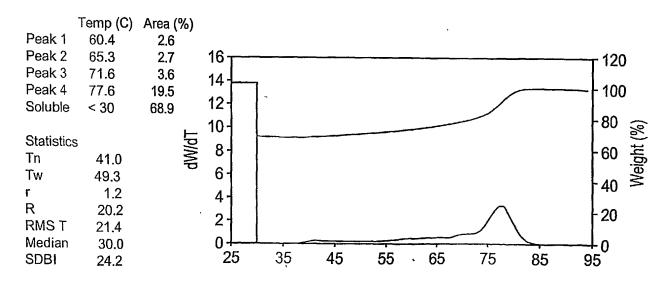
SUBSTITUTE SHEET (RULE 26)

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FIG. 27

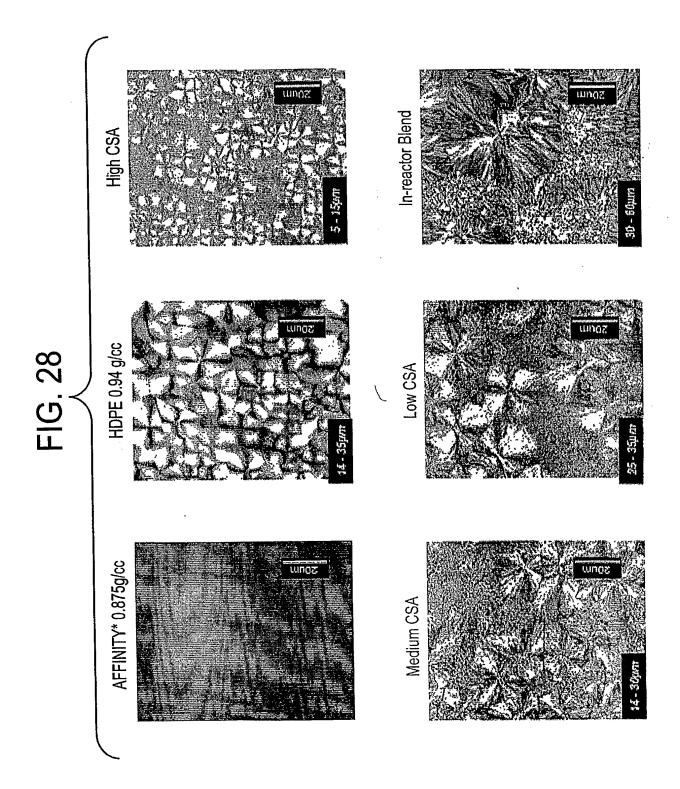


CRYSTAF Report LIMS #: 70870.0 Reference: 04C22R14 Crystaf ID: 675-04



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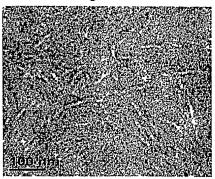
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FIG. 29

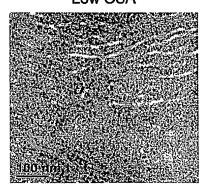
High Resolution Scanning Microscopy

Random E/O Copolymer

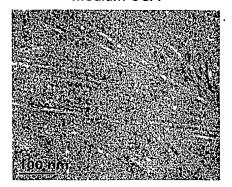
High CSA



Low CSA



Medium CSA



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FIG. 30
300% Strain Cyclic Behavior of Fiber

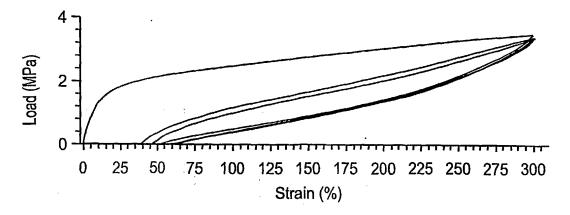
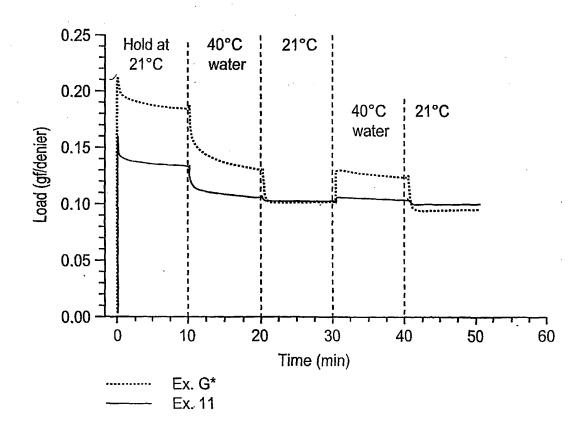


FIG. 31



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FIG. 32

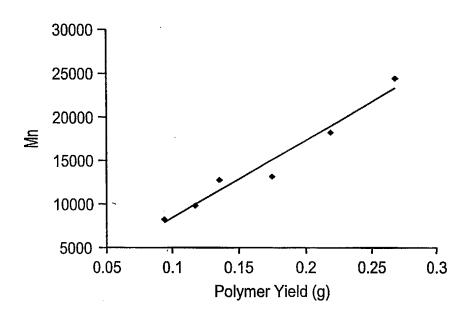
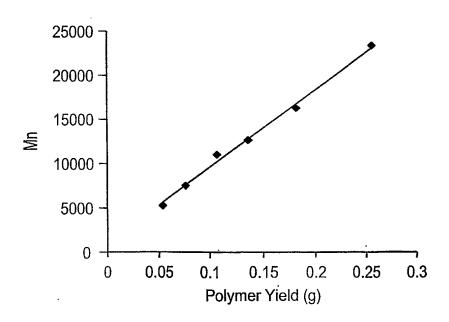


FIG. 33



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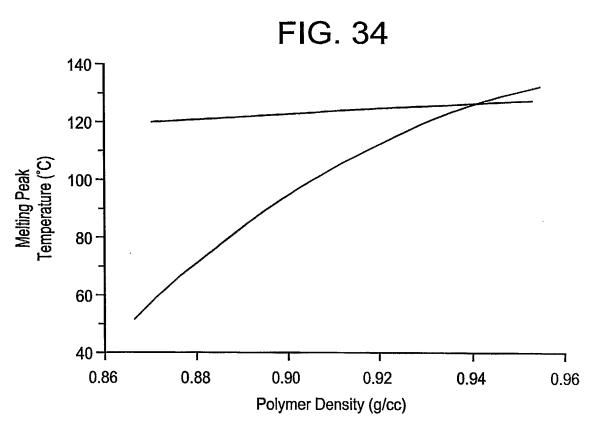
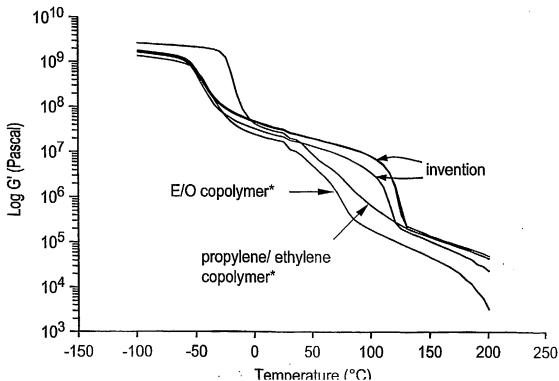


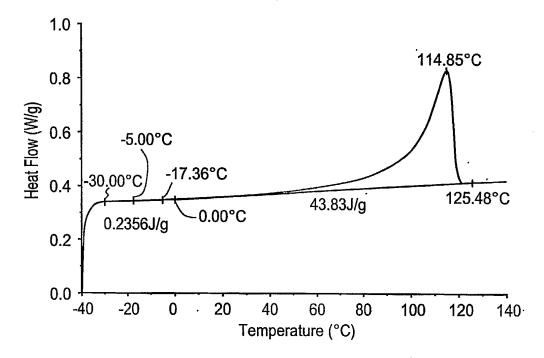
FIG. 35



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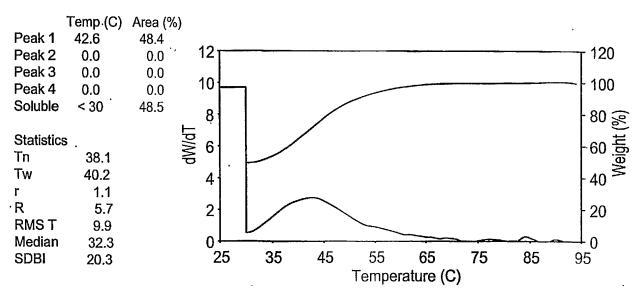
FIG. 36
DSC Example 24



CRYSTAF Report LIMS #: 80053

Reference: 200402602-46-9

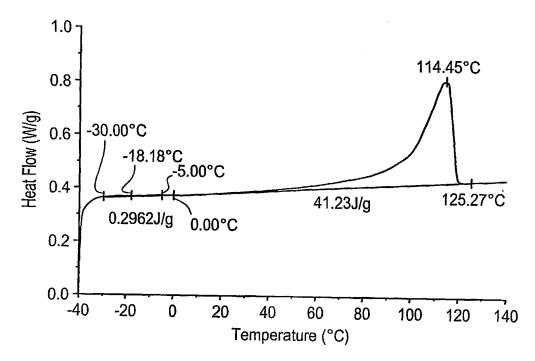
Crystaf ID: 134-05



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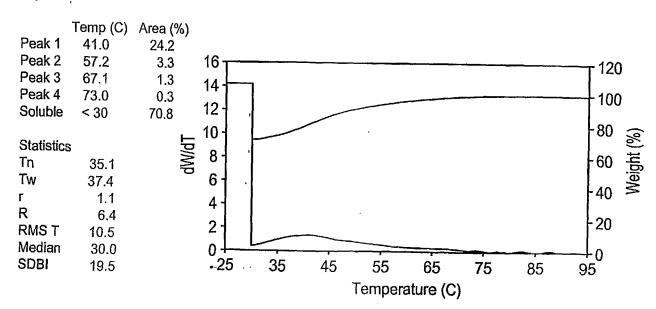
FIG. 37 DSC Example 25



CRYSTAF Report LIMS #: 80148-1

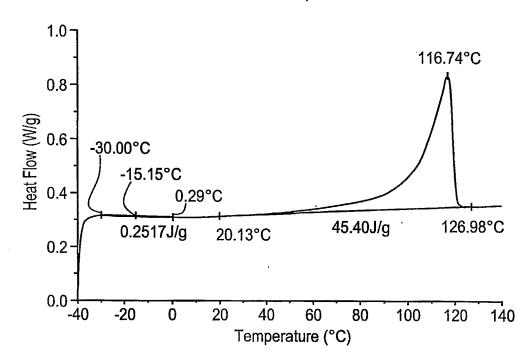
Reference: 200402602-47-1

Crystaf ID: 79-05



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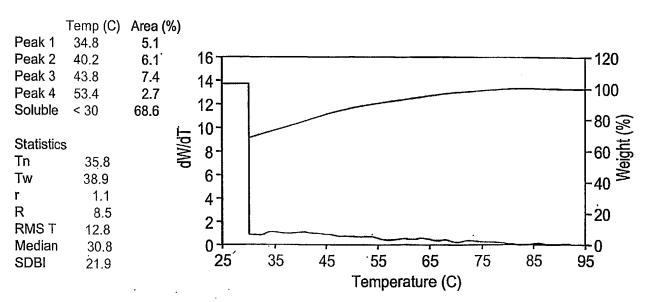
DSC Example 26



CRYSTAF Report LIMS #: 80541

Reference: 200402602-47-3

Crystaf ID: 84-05

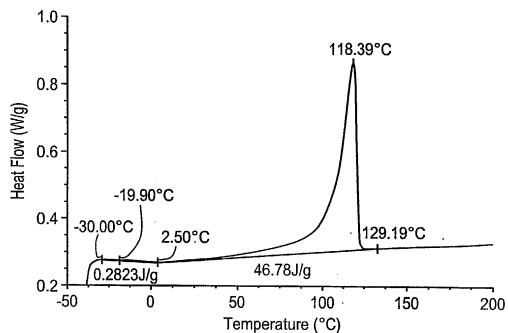


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FIG. 39

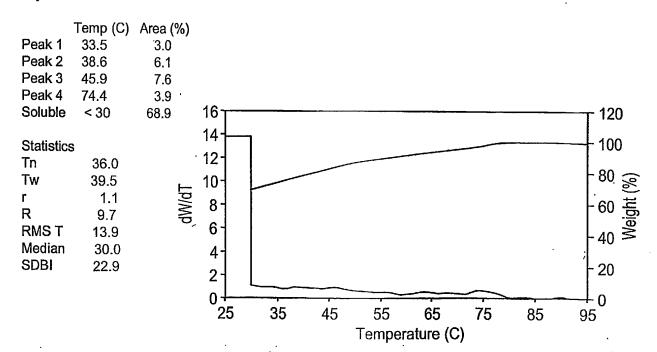
DSC Example 27



CRYSTAF Report LIMS #: 80542

Reference: 200402602-47-4

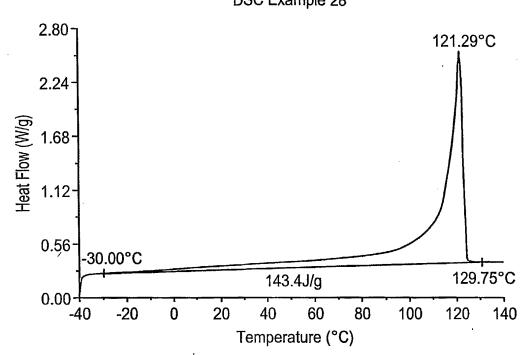
Crystaf ID: 85-05



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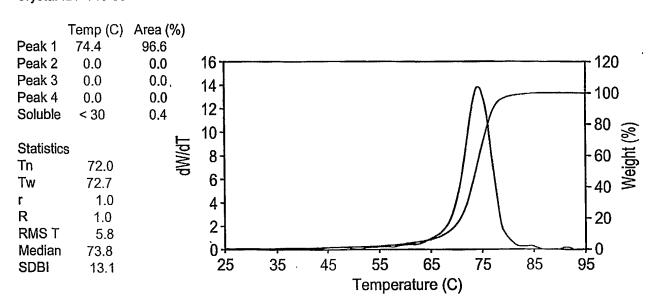
FIG. 40 DSC Example 28



CRYSTAF Report LIMS #: 81959

Reference: 200402602-50-6

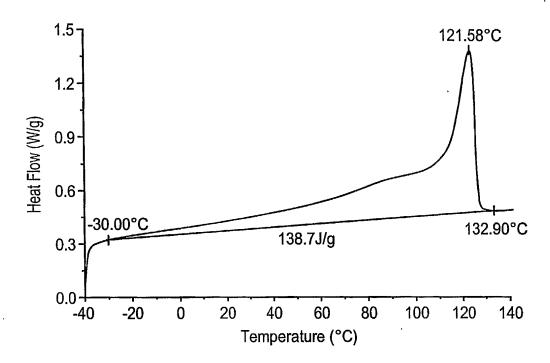
Crystaf ID: 140-05



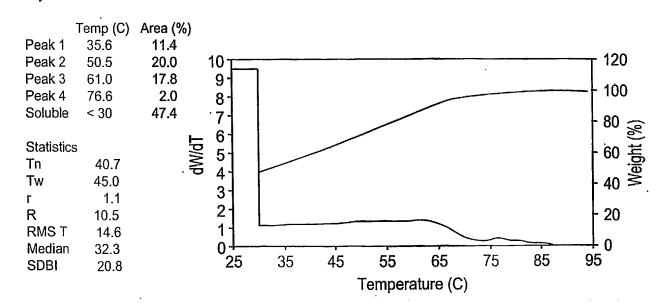
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FIG. 41
DSC Example 29

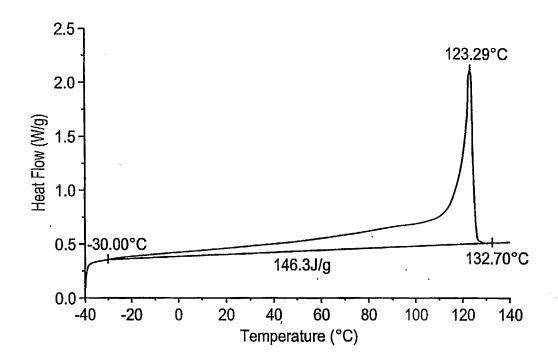


CRYSTAF Report LIMS #: 78640 Reference Lib: 103875 B6 Crystaf ID: 143-05



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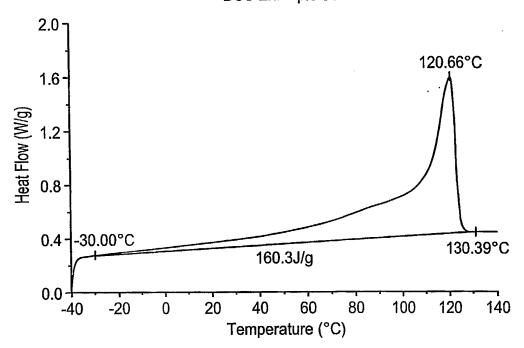


CRYSTAF Report LIMS #: 78644 Reference Lib: 103975 C6 Crystaf ID: 145-05

Temp (C) Area (%) Peak 1 34.4 2.8 120 Peak 2 25.4 10 50.6 Peak 3 59.2 6.2 9 100 Peak 4 66.1 16.6 8 Soluble < 30 43.3 7 80 6 **Statistics** 60 the Weight 5 Tn 42.8 4 Tw 47.6 40 3 r 1.1 2 R 20 11.2 1 RMS T 15.2 0 - 0 Median 37.9 55 75 25 35 45 65 85 95 **SDBI** 22.0 Temperature (C)

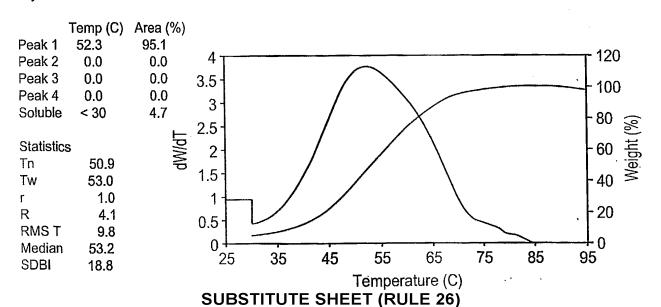
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FIG. 43
DSC Example 31



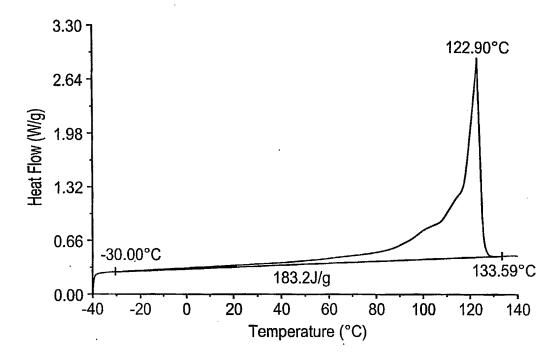
CRYSTAF Report

LIMS #: 78648 Reference Lib: 103975 Crystaf ID: 147-05



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FIG. 44 DSC Example 32



CRYSTAF Report

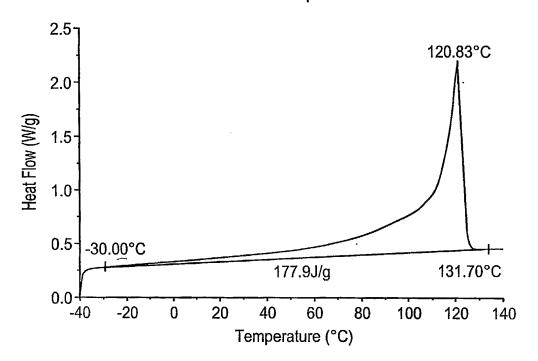
LIMS #: 78651

Reference: Lib 103975 E6 Crystaf ID: 148-05

Peak 1	Temp (C) 37.7 .	Area (%))								
Peak 2	64.1	95.2	7 	·							
Peak 3	0.0	0.0	اہ								
Peak 4	0.0	0.0	6				\wedge				
Soluble	< 30	2.3	5			/	′ \∠			00 🔾	
						/	X			- 60 69 - 80 Weight (%)	
Statistics			LP/MP 3:		/ /\ Len \(\mathre{E}\)						
Tn	. 60.8		ફ્રિયું			/	/ '	\		E 00 '99	
Tw	62.3		i			/		\		- ₄₀ ≥	
r	. 1.0		2 1			//	/	\		'0	
R	2.5		4.					/.		- 20	
RMS T	8.4		1.1_						_		
Median			0 ↓				,		\rightarrow	 +0	
SDBI	14.6		25	35	45	55	65	75	85	95	
				Temperature (C)							

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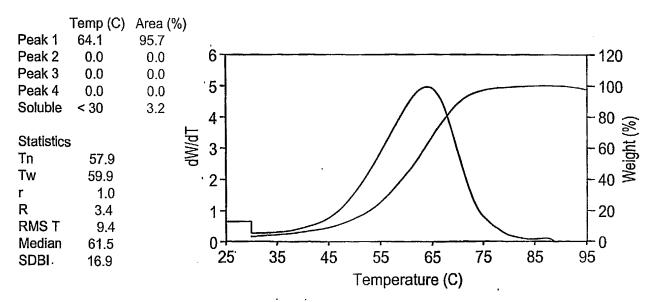
FIG. 45 DSC Example 33



CRYSTAF Report LIMS #: 78659

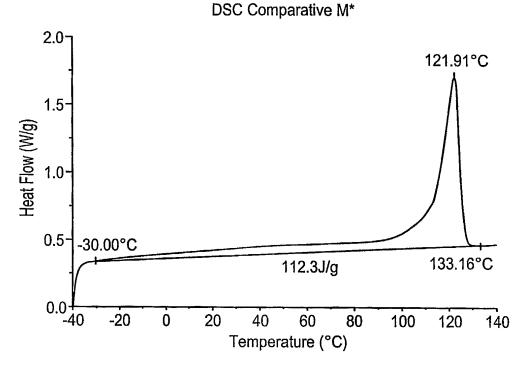
Reference: Lib 103975 G6

Crystaf ID: 152-05



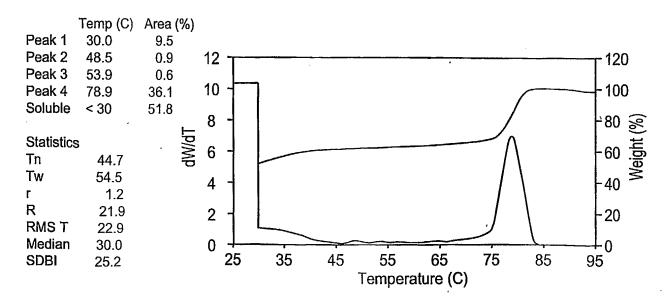
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FIG. 46



CRYSTAF Report LIMS #: 78637 Reference: Lib 103875 B1

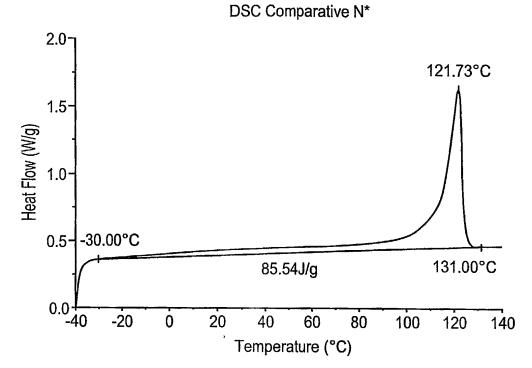
Crystaf ID: 142-05



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FIG. 47

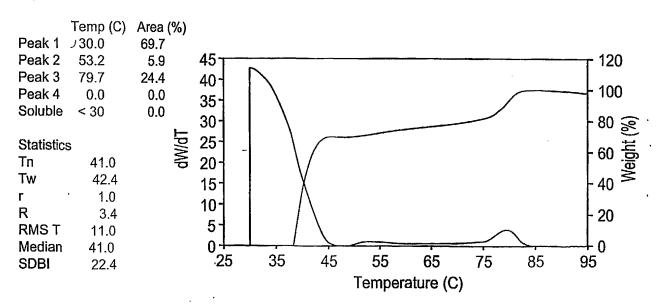


CRYSTAF Report

LIMS #: 78641

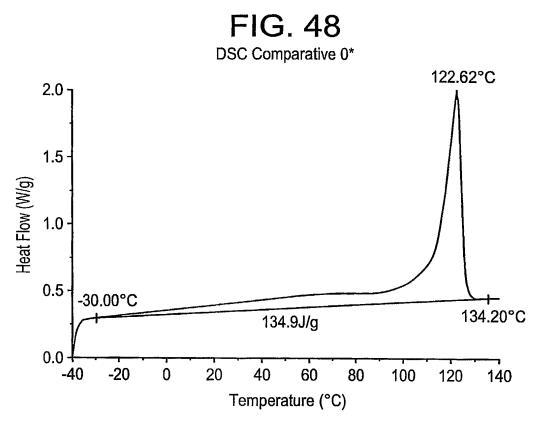
Reference: Lib 103875 C1

Crystaf ID: 144-05

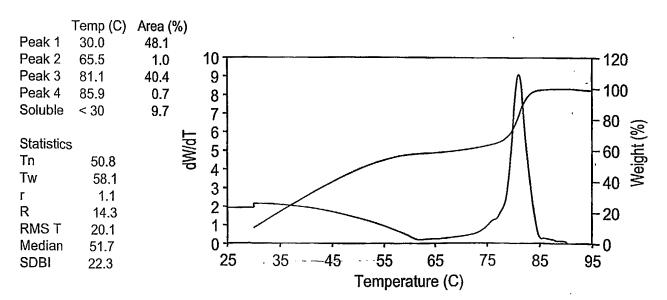


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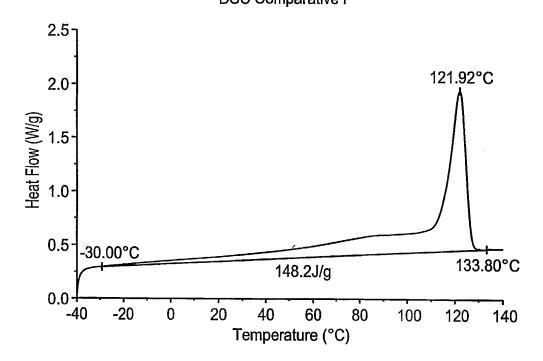


CRYSTAF Report LIMS #: 78645 Reference: 103975 D1 Crystaf ID: 146-05

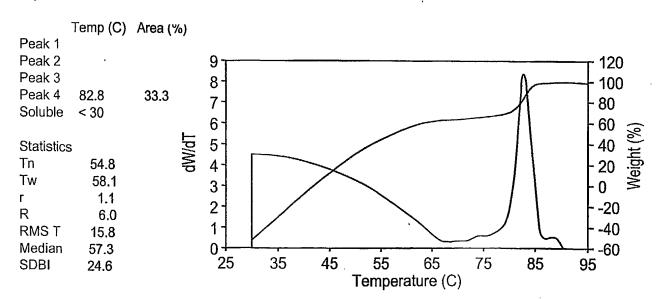


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FIG. 49
DSC Comparative P*



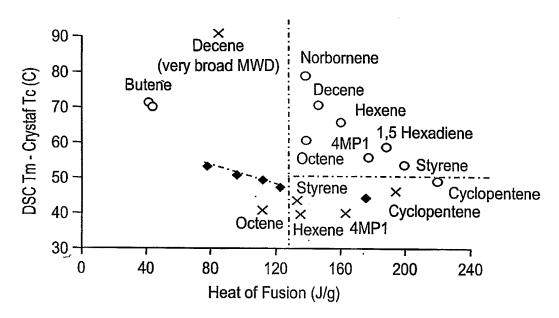
CRYSTAF Report LIMS #: 78657 Reference: 103975 G4 Crystaf ID: 151-05



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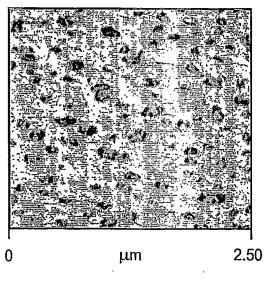
FIG. 50

Delta DSC-CRYSTAF Relationship with DSC Melt Enthalpy



- ◆ Random Ethylene Octene
- × Comparative copolymer examples with MMAO
- O Inventive copolymer examples

FIG. 51



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FIG. 52

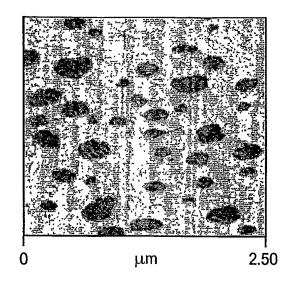
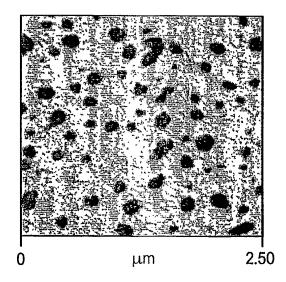
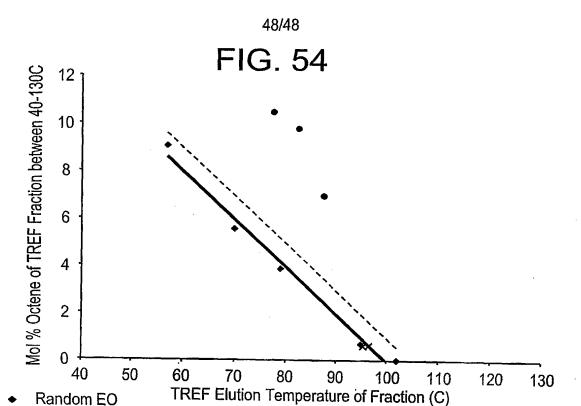


FIG. 53





- Inventive Example 5
- × Comparative Example E* and F*
- --- y = -0.2013 (TREF Elution Temp) + 21.07
- y = -0.2013 (TREF Elution Temp) + 20.07

FIG. 55

